

NOAA Education Council Meeting

Date/Time: April 16, 2014 / 1:00–4:00 pm
Location: SSMC3, Room 14836
Dial-in: 866.901.0711
Passcode: 8134683, leader code: 1144183
Contact: Lisa Nakamura (202) 482-3139, Marissa Jones (202) 482-4592

Adobe Connects Link to Meeting: <http://connectpro46305642.adobeconnect.com/edcouncil/>

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http://www.oesd.noaa.gov/council/Audio_AdobeConnects.pdf

AGENDA

- 1:00 Welcome/Opening remarks - Louisa Koch
- 1:10 Present Strategic Plan Outline in Preparation for Council Comments and Decision (*Informational*) - Steve Storck/ Christos Michalopoulos sponsor (20 min presentation/ 30 min discussion)
- 2:00 Updates and Announcements (30 min)
- 2:30 Break (15 min)
- 2:45 Education in the Office for Ocean and Coastal Resource Management (*Informational*) - Jeff Payne and Ginger Hinchcliff/ Atziri Ibanez sponsor (15 min presentation/ 30 min discussion)
- 3:25 Citizen Science Update (*Input requested*) - John McLaughlin/ Christos Michalopoulos sponsor (20 min presentation/ 15 min discussion)

Attendance

In person: Louisa Koch (LK), Atziri Ibanez (AI), Bob Hansen (BH), Bronwen Rice (BR), Bruce Moravchik (BM), Carrie McDougall (CMc), Chelsea Berg (CB), Christos Michalopoulos (CM), Frank Niepold (FN), Lisa Nakamura (LN), Jennifer Hammond (JH), John Baek (JB), John McLaughlin (JM), Kate Naughten (KN), Marissa Jones (MJ), Marlene Kaplan, Nina Jackson (NJ), Rochelle Plutchak (RP), Ron Gird (RG), Sarah Schoedinger (SSch), Steve Storck (SSt)

On the phone/chat: Christopher Nelson (CN), Judy Koepsell (JK), Maia McGuire (MMc), Paula Keener-Chavis (PK), Seaberry Nachbar (SN), Shannon Sprague (SSp), Stacy Rudolph (SR), Stephanie Bennett (SB), Tanja Fransen (TF)

Presenters/guests: Ginger Hinchcliff (GH), Jeff Payne (JP), John McLaughlin

Summary of Action Items and Decisions:

ACTION: Steve Storck will send the Draft Strategic Plan Framework to Education Council members along with review instructions and a link to the current Strategic Plan.

Completed on 4/17/2014.

ACTION: Marissa Jones will send a Doodle poll for scheduling the Implementation Plan retreat.

Completed on 4/21/2014.

ACTION: Contact Nina Jackson if you are interested in participating in the Satellite and Education Conference on July 30 – August 1 in Madison, WI.

ACTION: Contact Carrie McDougall if you are interested in participating in the Science on a Sphere Users Network Meeting on June 10-12 in St. Paul, MN. The registration deadline is May 23, 2014.

ACTION: Contact Chelsea Berg if you are interested in participating in Sea Grant Week on September 7-12, 2014 in Clearwater Beach, FL.

ACTION: Contact Seaberry Nachbar or Bronwen Rice if you would like to attend the B-WET regional update presentations on May 15, 2014 in Silver Spring.

Welcome/Opening remarks

- LK: On April 10, we held a constituents briefing about NOAA STEM Education in the FY15 President's Budget Request. We were joined by 144 participants, including teachers, Sea Grant, NERES, National Marine Sanctuaries, content users, environmental educators, and nongovernmental organizations.
- LK: This morning, Carrie McDougall gave a Science on a Sphere (SOS) presentation to Ocean Ambassador Bolton for Secretary Kerry's Ocean Conference. The conference will be held in June. He sees this as an opportunity for education on ocean acidification, ocean pollution, and overfishing. The Ambassador was very pleased about the integrated presentation of NOAA products. I want to thank everybody because it has been a team effort to pull the presentation together.
 - MK: With flight 370, it seems like marine debris and other issues may be of interest to an international audience.
 - CMC: Marine debris is one of the topics that will be presented at the meeting, along with hypoxia, and sustainable fishing.
- LK: Michiko has accepted a job at the Forest Service. She has been with Sanctuaries for 11.5 years and she was one of the founding members of the Education Council. This is surely a loss for us, but a gain for Michiko and now we have a partner at another agency.

Present Strategic Plan Outline in Preparation for Council Comments and Decision (Informational) - Steve Storck/ Christos Michalopoulos sponsor (20 min presentation/ 30 min discussion)

See presentation.

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- AI: Would you be amenable to leading a webinar?
 - SSt: Yes, I will make myself available for meeting with your networks. We hadn't planned to do a general webinar. Steve, Marissa, or someone from the Office of Education (OED) will be available to speak to you.
 - SB: Do we need to collate the comments for you?
 - SSt: Yes, we will provide written instructions for collecting comments and submitting them to the Office of Education.
 - KN: Where should I direct my network's comments? Should they focus on objectives, strategies, core areas?
 - SSt: Core areas are included to help them see themselves in the document. If you have to prioritize time, I'd direct them to comment on Goals and Objectives over Strategies because the Objectives are at the core of the plan.
 - SN: We want to send this out to our Sanctuaries staff. Should we just highlight the bullet points on slide ten to explain what to do?
 - SSt: Kate Thompson invited me to your meeting tomorrow, so I'll go over the goals that will be important to them and direct them to goal and objective language.
 - SN: Letting them know their importance and how valuable their comments are would really be helpful.

Action: Steve will send email on 4/17 with document and instructions. If you have editorial comments you can submit multiple word documents along with submission.

- SB: Is this is an internal review, not our external partner review?
 - SSt: Yes, the external review will be taking place later this summer. If you have a very important partner and they would understand that this is an early draft, we leave it up to your judgment whether to share at this time.
- FN: When you send the instruction letter, it might be helpful to indicate when various other parts of the document will be included and distributed for review. It would also be good to direct them where to find Environmental Literacy in this document.
 - SSt: There is front matter that will show up in the final version of the Strategic Plan that is not covered in the Outline. We will add that when we write the plan narrative. Environmental literacy is covered by three goals, so the precise term is not at the Goal level.
- RB: Is there value to directing our networks to compare the new plan to the old plan so they can see which elements are changing?
 - SSt: You might want to ask them to consider whether this is an improvement over the old plan. However, it's not an even comparison, since the new plan is not complete. One of the questions was whether we are going to have "core principles," such as basing our education activities on the best available science. That's a best practice that applies to everything we do, and those elements do not show up in this plan. **I will include a link to the old plan in the instructions that I send out.**
 - CM: We have spent a long time thinking about why this plan looks the way it does. Someone who has not been privy to those conversations might be inclined to say that the old plan is better because it is more polished. But we understand why these changes are necessary, and to some extent this ship has sailed. We want to make this plan as perfect as possible, but we do not want to revisit why this plan is structured the way it is.
 - SSt: One of the things we got dinged on before was that wording was not consistent between the different sections. The original plan had goals and outcomes. This time we have Goals, Objectives, and Strategies. The Goals are aspirational and they are presented in Outcome language. The Objectives the things that we are trying to change in the community or internally. Strategies are the work that we actually perceive doing to make

those changes. That's the three tier level. The organizational structure between the old and the new plan is not directly comparable.

- SSt: The last point I would like to make is that when I look back across the work that we have put into this it is clear that this is a big accomplishment. You can really be proud of yourselves because you have put a lot of work into this plan.
 - LK: Thank you so much for leading, guiding, supporting, and enabling this process. You're our Strategic Plan hero. I agree that the last plan brought us together and this plan will help us take another big step forward.

Surprise guest question and answer session with Jean May-Brett

- LK: We would like to welcome a guest, Jean May-Brett on the NOAA Science Advisory Board where she represents formal education. Jean was an environmental and earth science educator before she became the MSP/STEM Coordinator for the Louisiana Department of Education. She is currently a member of the Council of State Science Supervisors and was a past president of the National Marine Educators Association. She just joined us from the State Science Board meeting. Welcome, Jean.
- JMB: Thank you for the opportunity to meet with you. Environmental literacy is important to me so I would like to see where that is in your Plan. Resiliency is part of Kathy's four priorities, and that's very relevant for those of us who live in the Gulf. I want to compliment a couple of people for their work at NSTA. It was difficult to say hello with hundreds teachers at the booth trying to access materials and collect insight. I also did 5 years at Louisiana public broadcast so I have done both formal and informal education, as well as STEM. I hope to represent both at the Science Advisory Board. We are going to see some differences in the Science Advisory Board, including shorter reports and quicker correspondences about our working groups. Thank you on behalf of the thousands of teachers who use NOAA's resources. Many middle school teachers do not have content and are thrown into teaching earth system science. NOAA's education community has been instrumental in pointing teachers to resources and NOAA's materials are incredibly valuable in those cases. You will see your data resources and NGSS coming out in Louisiana because NOAA's data products make it easy for students to get involved in science. We are having problems with the Common Core. Your materials make it easy to get students engage, because after all, science is a verb. Do you have any questions for me?
 - LK: With your vast experience, what piece of advice would you give us? You're talking to representatives from across NOAA – is there something we should strive to do differently?
 - JMB: You should let us know what we need to do. I am very scared about the prospect of losing programs and having them transferred to the lead agencies. I'm concerned about losing B-WET programs. We work on getting the word out to constituents to call their legislators. We need to know when these types of activities need to be marshaled. We put your updates in our correspondences and send them to teachers. If I'm reaching thousands of teachers in my e-blast then we have a way to get people the information they need to take action. We need students in every state who are college ready and trained in earth system sciences. We need the information that we need to mobilize and marshal the troops.
 - FN: Thank you.
 - MK: Can you say any more about NGSS?
 - JMB: They have been accepted by 11 states. In some states they are called something else. We are already working on science and engineering practices and that's critical for success. The new Cross Cutting is the old Unified Concepts, i.e.

systems thinking. I think you will gradually see NGSS come out to all states (except Texas). We are not pushing the way the Common Core is pushing because we are not held by a testing deadline. At the Council of State Science Supervisors, most groups are looking at implementation in 2016-2017. We have to develop assessment questions to go along with Performance Expectations (PEs). Then it will have to be field tested and evaluated. But the idea preparing teachers to be comfortable with science and engineering is something that we have to do now, and that falls under the purview of NOAA.

- MK: Some of the Gulf Restoration money is for education. Have you been involved in that?
 - JMB: I will be the co-liaison for this but it's going slower than expected. PB is fighting all of the court cases. Secretary of the Treasury still hasn't given guidance and it's still up in the air to determine who the awards will be given to. We have picked the science experts so far, but it was a difficult choice. We want the group to pick the co-chair, already have picked the chair.
- MK: How strong is education coming through?
 - JMB: I'm nowhere without education being present. You can't look at the priorities of coastal resilience and coastal restoration without education.

Updates and Announcements

- RP: OAR – Next NOAA Science Days is scheduled for June 23 in Silver Spring. The topic is research to reduce disasters and enhance resilience. It is in person and webcast for NOAA employees. It also includes a leadership briefing at HCHB and a Hill portion with a subset of speakers giving briefings to both the House and the Senate. The next one after that will be in September on social science research.
- RG: NWS – We have been invited back by the Wolf Trap Institute for Early Learning. We will be giving a weather 101 presentation to a group of artists in order to help them incorporate weather and art into their curriculum. Next week is Earth Day. National Weather Service and Climate Program Office will be staffing a booth at Union Station. The Weather Channel will also be doing a broadcast.
- KN: NMFS – We are in the process of reinvigorating our education effort. Lisa Hiruki-Raring will be reinitiating monthly calls for the Fisheries Education Council. This will help bring regional efforts to the table.
 - LK: Kate is going to represent NOAA at the National Ocean Science Bowl.
- NJ: NESDIS – **I am working on group travel for the Satellite and Education Conference in July 31 – August 1 in Madison, WI. If anyone is interested in going, please send me your information.**
- JH: TAS – Teachers are currently underway, one teacher has sailed already and another is underway. One alumnus partnered with the NOAA Northeast Fisheries Science Center to have NOAA Ocean Science Day in the entire elementary school and they hope to make it an annual event. For Earth Day, one teacher working on sawfish and following researchers. They caught fish and named them after the teachers and the students get to adopt them. One is being tracked and the students can follow it remotely.
- JB: OED – The monitoring and evaluation working group met on Monday. Professional development is in good shape, Stewardship is taking a half step back. On Friday we are revisiting our current set of common measures. Those will be presented to the Education Council for review and approval in June or July.
- BM: CPO – Through the Distance Learning Working Group we have set up a series of broadcasts

in partnership with NASA and EPA through NASA's Distance Learning Network. Frank will be presenting on April 22. We are using this as a concept for a NOAA module for the Distance Learning Network, engaging both live and archived broadcasts to classrooms. We are currently planning a two day workshop on traditional environmental knowledge and climate change. It will be held at the Hudson River NERRS with Chris Bowser on August 24. It will be open to Federal personnel and educators in the area. For NOAA Climate Stewards, Frank gave excellent presentation on April 17 that was attended by over 100 Educators. 97% said that they planned to use the resources in the next six months. Climate Stewards has a book club meeting on April 28. The book is *Merchants of Doubt* by Naomi Oreskes. Her colleague, Eric Conway will be joining us on the call on Monday April 28 at 8 pm.

- FN: CPO – The National Climate Assessment is scheduled to come out the week of May 6. The good news is because of the National Climate Assessment and the President's Climate Action Plan, the Administration is now engaged in opening the door to education as a part of these efforts. Historically it was just data, mitigations strategies, etc. Our community has distinguished itself over the years, hopefully this will lead to promising places. I have a handout to share on the NCA, which should be the foundation for climate science in the United States.
- SSch: OED – The Needs Assessment that John Baek and I put together has closed. We got a high response rate so thank you to those who pushed their networks to respond. We are in the process of analyzing the responses. We plan to present in a webinar to see what kind of feedback we get from folks.
- JM: I wanted to update you on our partnership with the CoCoRaHs network. They recently put together a fun and information video about weather vs. climate. They started as a weather program, but now that they are in their 17th year, they are starting to address climate. At Frank's suggestion they are putting it into the CLEAN database as well. They made a change to their database so now they are accepting precipitation in mm in addition to inches so that it can be compared to satellite and other data.
- CMc: OED – **We are getting ready to hold the Science on a Sphere Users Collaborative Network in St. Paul, MN. Let me know if you are interested in attending.**
- BH: OED – The USA Science and Engineering Festival is coming up April 25 – 27. I'm still looking for volunteers, so if you'd like to inspire the next generation of scientists we would love to have you. I'll send out a word on National Marine Educators Association conference in Annapolis.
- BR: OED – Thanks to Jean for supporting B-WET in the Gulf. You have been a great resource there.
- BC: OED – Data Resources collection for educators is online on education.noaa.gov. This is the culmination of one of my Fellowship projects. Half of the collection is online, more will be coming soon with help of Dan Pisut, Molly Harrison, and Atziri Ibanez. Thanks to everyone who contributing. My fellowship is coming to a close and I've accepted a position as the Education and Outreach Manager for The Nature Conservancy. I will be initially working in the World Office in Arlington for six months, then I will be able to work remotely. The position starts on May 27.
 - LK: You have made a tremendous contribution and you will be sorely missed. Thank you for all you have done and all you will still finish before you leave.
- AI: NERRS – In March we had a meeting with all 28 education coordinators about coastal resilience. We shared work that NERR sites have done to tackle that topic. The community is nervous about coming at this from the K-12 perspective and how to reframe our thinking when talking about coastal resilience. They are somewhat concerned about a new priority buzzword, but with a small shift in thinking it is clear that resiliency is already integrated into regional priorities. Overall, we had a great meeting and I think we have come a long way in using new technologies and having effective virtual meetings. This summer we have 10 Teacher on the

Estuary trainings. The education coordinators are starting to use new technologies to help teachers get a good understanding of a salt marsh, including cameras, panoramic views, and Google sites. We will present a scoping study on the economic valuation of education programs. We are making good progress on how to monetize educational contributions to society. We hope to present to the Ed Council in the next couple of months. This will give you an opportunity to give input. The Waquoit Bay Reserve just launched a campaign called Bringing Wetland to Market, particularly about carbon.

- MK: We have announced the 2014 Class of Hollings and EPP Scholars. 106 Hollings Scholars, 7 EPP. Thanks to everyone who reviewed applications.
- CB: I am the NOAA liaison to the Smithsonian Ocean Portal so if you have topics, tools, or curricula to share please send them to me. Early bird registration for NMEA is open until April 30. **Sea Grant week is in September in St. Petersburg, FL. If anyone is interested in attending please let me know.**
- CM: OED – We are hoping to get together for an implementation retreat mid-summer. **Marissa will send a doodle poll.** We are hoping to use Ed Council meeting in July for retreat in Silver Spring.
- LN: Deputy Under Secretary of Operations is reviewing and evaluating NOAA Councils. We put together a draft answer to their data call. It's very short, only two pages. I just wanted to say that we have a lot of good things to offer and say. Christos and Louisa have been having conversations and they have been very positive feedback about the Ed Council.
- TF: NWS – Warning Coordination Meteorologist. The Weather Ready Nation Ambassador Program that was started about three months ago already has 250 businesses, organizations, agencies that have pledged to promote safety and awareness of hazardous weather and other issues. America's Preparathon is a big awareness effort that is coming up on April 30. The goal is trying to get the nation to think more about preparedness. We surveyed all of our WCMs – there's 123 of us and we got 97 responses on what the SkyWarn program is in their area. We also asked what they need, how they conduct their SkyWarn education, which is our Weather Spotters training class on what to look for to identify severe weather. There are needs in the program that are not being met right now. Over 2000 talks are given nationally. We are still analyzing that information to present to headquarters on needs that aren't met. Reviews. Locally, I will be participating with Earth Day on nearby reservation talking about weather instrumentation helps us in forecasting and how to collect data. We are going to present with with the Bureau of Land Management on fire safety and we're going to talk about fire weather with 6-8th graders coming up in a few weeks. We have an outdoor classroom that we're working with the local county extension offices with 8th graders and continue our theme of weather instrumentation.
- SN: ONMS – The B-WET meeting is coming up in May. We wanted to extend an invitation to those on Ed Council to attend a portion of the meeting during regional presentations. It would be a good opportunity find out what B-WET is up to in the regions. That portion of the meeting will take place Thursday, May 15, 9:30 – 12:00 in Silver Spring, SSMC3. **If you are interested, email me or BR.**
- SB: Office of Coastal Management – Every March a variety of Federal and local agencies gather to discuss resilience in the Pacific. It was a well-attended event with many education sessions. Next year we are thinking of holding an entire education symposium. At the end of the month we held a Tsunami SphereCast. Everything worked on our end and I would like to get feedback on how it went on your side. A few days later, we hosted Secretary of Defense Hagel and Dr. Sullivan. Dr. Sullivan presented on the Sphere and found it very effective for communicating our messages and science. We also have some interest in the International Pacific Marine Educators Network meeting in Japan and we will possibly do another SphereCast. Tsunami month has taken place all month so we have been working on preparedness and awareness.
- BH: I am not doing group travel for NMEA because it is a local meeting. NSTA was attended by

11,510 educators. We were the largest Federal agency. NASA was not there, but their partners were, as well as EPA, NIH, Forest Service, and USGS were there. I counted at least 40 presentations by NOAA employees, partners, grantees, etc. The largest contingency came from Teacher at Sea alumni. I think that's an excellent relationship that we have. They helped staff the booth and were valuable partners. Other partners from NERRS, NMS, and GLOBE were also very helpful.

- JH: We had 15 teachers participate and they loved working in the NOAA booth. They love being part of the NOAA team and bigger NOAA presence. Our teachers kept the pieces of the booth and extra supplies. Thank you to Bob for going through the Group Travel request.
 - LK: If Climate Stewards and Teacher at Sea hadn't had been there, we would not have had travel approved.
- BM: We only had 1 Climate Steward Educator formally at the booth, but over 30 attended and gave presentations. Many of them asked me for slides to include in their presentations so they could talk about NOAA and Climate Stewards. Every single one came up to me and mentioned how wonderful it has been working with NOAA. It has been an exciting presence for NOAA there. There was outstanding attendance at the one day workshop on Climate Stewards. 170 folks from 34 different countries (?) over the course of the workshop. We partnered with US Forest Service and US Ice Drilling Program.
- JMc: The GLOBE presence was an opportunity borne of financial hardship. They usually go with NASA, but this year NASA did not attend, so they joined on with NOAA. Having GLOBE present worked out well. Their educators staffed the booth and I think that was a very powerful and effective way to do it. After the conference, the director sent an email saying how well it worked and asking to do it again next year.
- FN: Before NSTA, there was the Council of State Science Supervisors meeting. NOAA was the only federal presence there, which I found stunning given the strategic nature of this work. The states that were part of the council were incredibly aligned with what NOAA is trying to do. The states are moving toward NGSS, whether they are adopting it (11 states plus DC) or adapting it (Oklahoma and Massachusetts), or using standards build by and inspired by NGSS, but not calling it as such. The entire education system is moving toward our mission in a very hospitable way and we're eventually going to meet with us. We stand in very good stead in the community. District Science Supervisor started talking about meaning watershed experiences. They are benefiting directly from our programs.

Education in the Office for Ocean and Coastal Resource Management (*Informational*) - Jeff Payne and Ginger Hinchcliff/ Atziri Ibanez sponsor (15 min presentation/ 30 min discussion)

See presentation.

- BH: Do you foresee having a broader geographic distribution of education staff in the future? Four are in Hawaii, one in Seattle, one in DC.
 - GH: I'm not sure if having educators sit in each region is in the grand plan. But making use of the networks is in our plan, including Coastal America. These are not the only people who work on education. These are the people who have a significant portion of their portfolio directed to education. The staff whose names I highlighted are just some of the stand outs.
- LK: Our Strategic Plan is very much a work in progress and you're right there with us at the forefront. We are very interested in having a dialog about alignment in the future.
- JB: How do you define coastal communities?
 - GH: This presentation refers to people who live in coastal communities who could help

- us move toward outcomes if they were involved.
 - JB: How far inland are we talking?
 - GH: Our office looks at near shore waters up through coastal watersheds. If you look at an entire watershed, we can get into Idaho, but we mostly work with Coastal States. Mississippi River states are still in question.
- FN: When it comes to connecting the education plan to the NOAA mission, we are in the same space. Constituent engagement for informing decision makers is critical. I don't think that we have articulated that as well as you did. We share that same strategic approach in climate.
 - JP: I'd like to second that. We hear a lot about scientists as poor communicators. I don't necessarily agree with that. This is a classical conundrum – do we inform or do we look to others to tell us what's up? It goes back to K-12 education and having people form their own opinions about best science.
- BH: Under the old organization, the Corals Program had a strong education component. What is happening with coral education and is there anywhere else where there may be gaps?
 - GH: Corals program is part of the Stewardship Division. No one from corals is in Learning Services.
 - JP: Within the Office of Coastal Management (OCM), we need to do a better job of articulating and understanding relationship with corals and the coral matrix program. We have a quasi-administrative role. We have directly engaged the corals program, but we still have a lot of work to do to understand remaining challenges and opportunities.
 - SB: We began these discussions and talked about this with Paulo Maurin and his role in this picture. They are aware that we are providing a vehicle so their voice is not lost in the Council.
 - GH: We will add this to our discussion list at our upcoming meetings.
- CM: You represent a significant portion of the data capacity in our community. Are you working with NESDIS, NOAA View, or SOS in Boulder, Colorado to take a unified approach in how we serve data visualization products to our community?
 - GH: The integrated system head is DOC rep for geospatial data (Geospatial Information Officer) so we are contributing to this significantly.
 - JP: We enjoy the benefit of him being part of this office. Many of our tools incorporate some aspect of data visualization. Underlying that, data sources have to be integrated. This makes a big impact in engaging and stimulating our community members.
 - GH: We do try to model good behavior and best practices. We also make our data accessible.
 - CM: Clearly you are among NOAA's leaders in this area. As a whole, we lack some integration, but you are in a position to lead this unification effort.
- AI: We are thinking about best practices and standardization. Considering how it gets packaged for K-12 is very different than from other audiences. This is going to be an important element in what we put forth.
 - FN: Given that we have our science advisory rep here, and we don't have a council that carries these visualizations, it would be good to get input from the Science Advisory Board. This, along with social science and educational research, would be very beneficial for education and data visualization.
 - AI: This can be brought to the Data in the Classroom Working Group.
- LN: This council represents the different capabilities in NOAA Education. I hope that as you continue your conversations in your office, you consider the role that the Education Council can play.

min presentation/ 15 min discussion)

See presentation.

- FN: Do the volunteer hours meet the requirement for Open Government Plans?
 - JMc: I am not sure but this is something we will look into.
- JMB: Citizen Science is a major portion of our work in the Gulf of Mexico. I suggest that you put this out there when you are doing a distance learning network effort. Connect teacher and educator networks (NERRS, TAS, Climate Stewards) to get them and their students involved in citizen science projects and open innovation.
- FN: Now we're moving to sustained assessment and more of this information is going to be critical. We need to know about the data and how they feed into analysis?
 - JM: One thing we don't have currently is a database expert. If anyone has suggestions for a person who understands database management and Citizen Science please let me know.
- RG: When we had a partnership with Weather Bug and NCEP, there were quality controls in place. The Weather Channel has a citizen science program for photos and videos that they showcase. Some are entertaining, but others are useful for analysis, like hail. Perhaps we could build on this partnership.
- AI: Thank you for the Google Collaborative site. It is a phenomenal tool for centralizing information especially for contractors. At NERRS we have set up systems for monitoring and integrating data into state level database with associated quality assurance and quality control. Where do we want to go in advancing citizen science as the NOAA community? Do we need to determine our role more fully? I feel that our Strategic Plan touches nicely on citizen science activities. JB's map of stewardship fits in nicely with citizen science and may be useful to you in your presentations.
- **CM: There will be an opportunity to discuss the role of citizen science in the Ed Council and whether the Council will officially undertake this during the Implementation Plan.**